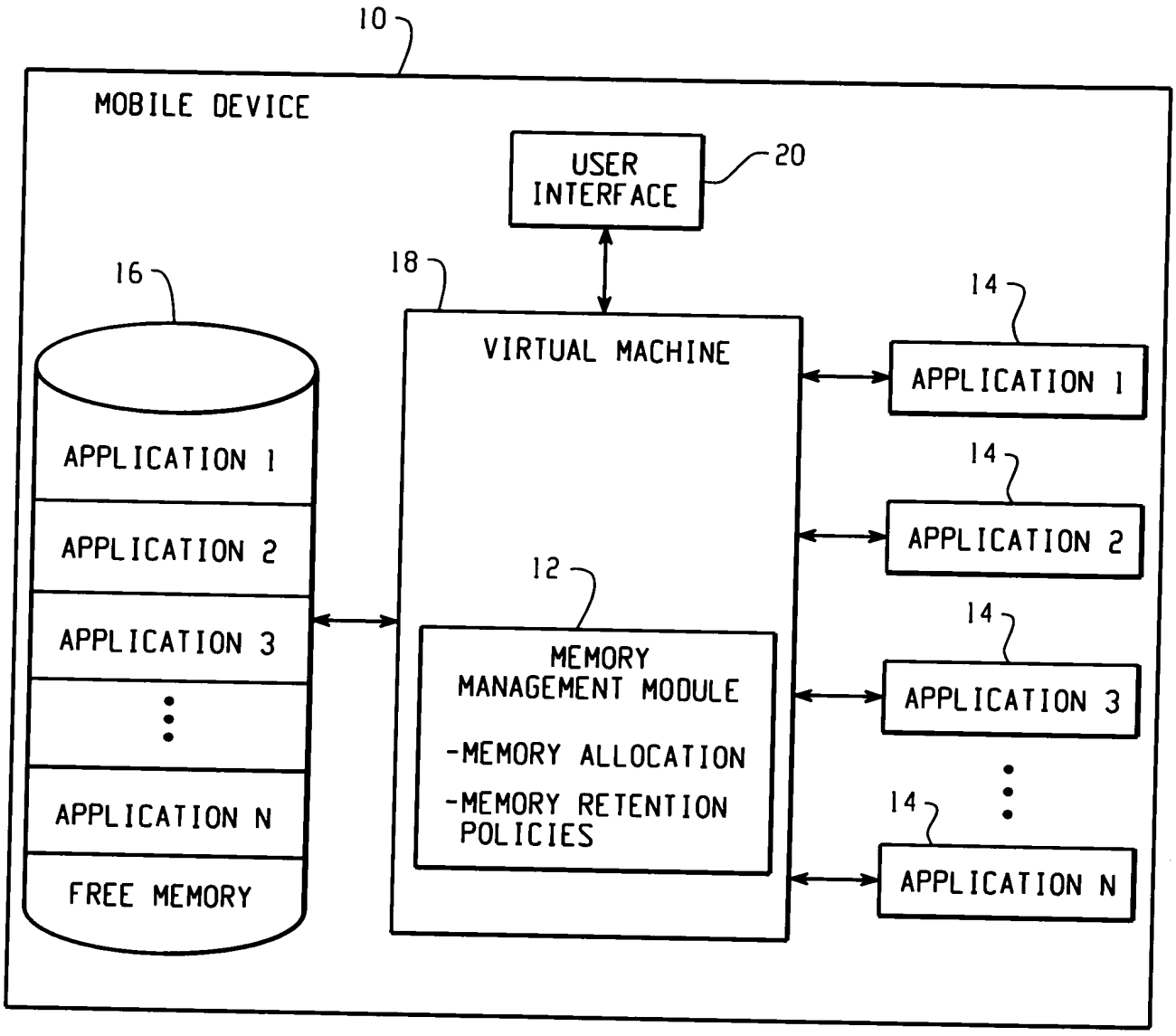
10
MOBILE DEVICE
USER INTERFACE
20
16
18
14
VIRTUAL MACHINE
APPLICATION 1
APPLICATION 1
14
APPLICATION 2
APPLICATION 2
12
14
MEMORY MANAGEMENT MODULE
-MEMORY ALLOCATION
-MEMORY RETENTION POLICIES
APPLICATION 3
APPLICATION 3
14
APPLICATION N
APPLICATION N
FREE MEMORY

Fig. 1

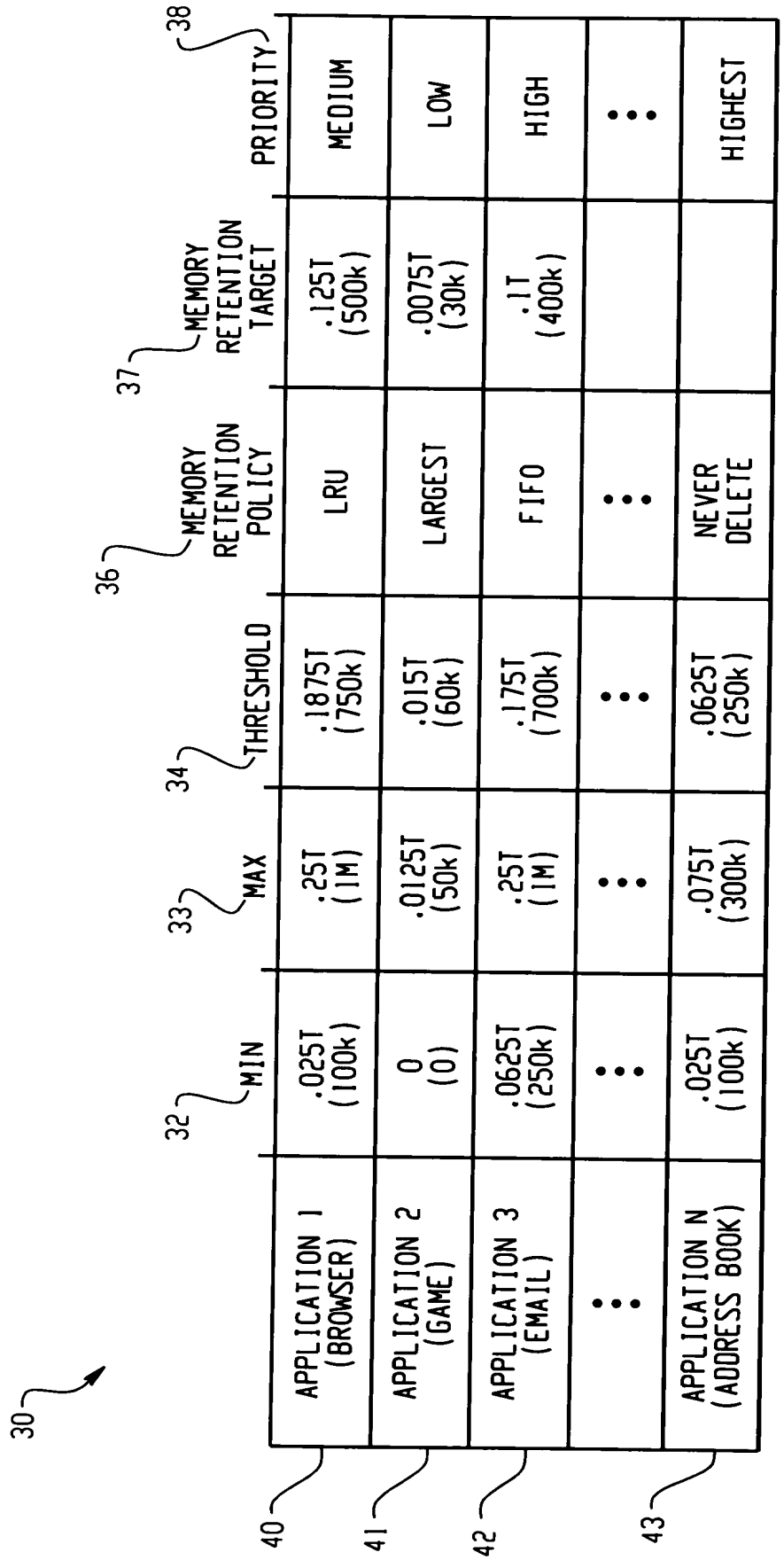
30
32
MIN
33
MAX
34
THRESHOLD
36
MEMORY RETENTION POLICY
37
MEMORY RETENTION TARGET
38
PRIORITY
40
APPLICATION 1 (BROWSER)
.025T (100k)
.25T (1M)
.1875T (750k)
LRU
.125T (500k)
MEDIUM
41
APPLICATION 2 (GAME)
0 (0)
.0125T (50k)
.015T (60k)
LARGEST
.0075T (30k)
LOW
42
APPLICATION 3 (EMAIL)
.0625T (250k)
.25T (1M)
.175T (700k)
FIFO
.1T (400k)
HIGH
43
APPLICATION N (ADDRESS BOOK)
.025T (100k)
.075T (300k)
.0625T (250k)
NEVER DELETE
HIGHEST

Fig. 2

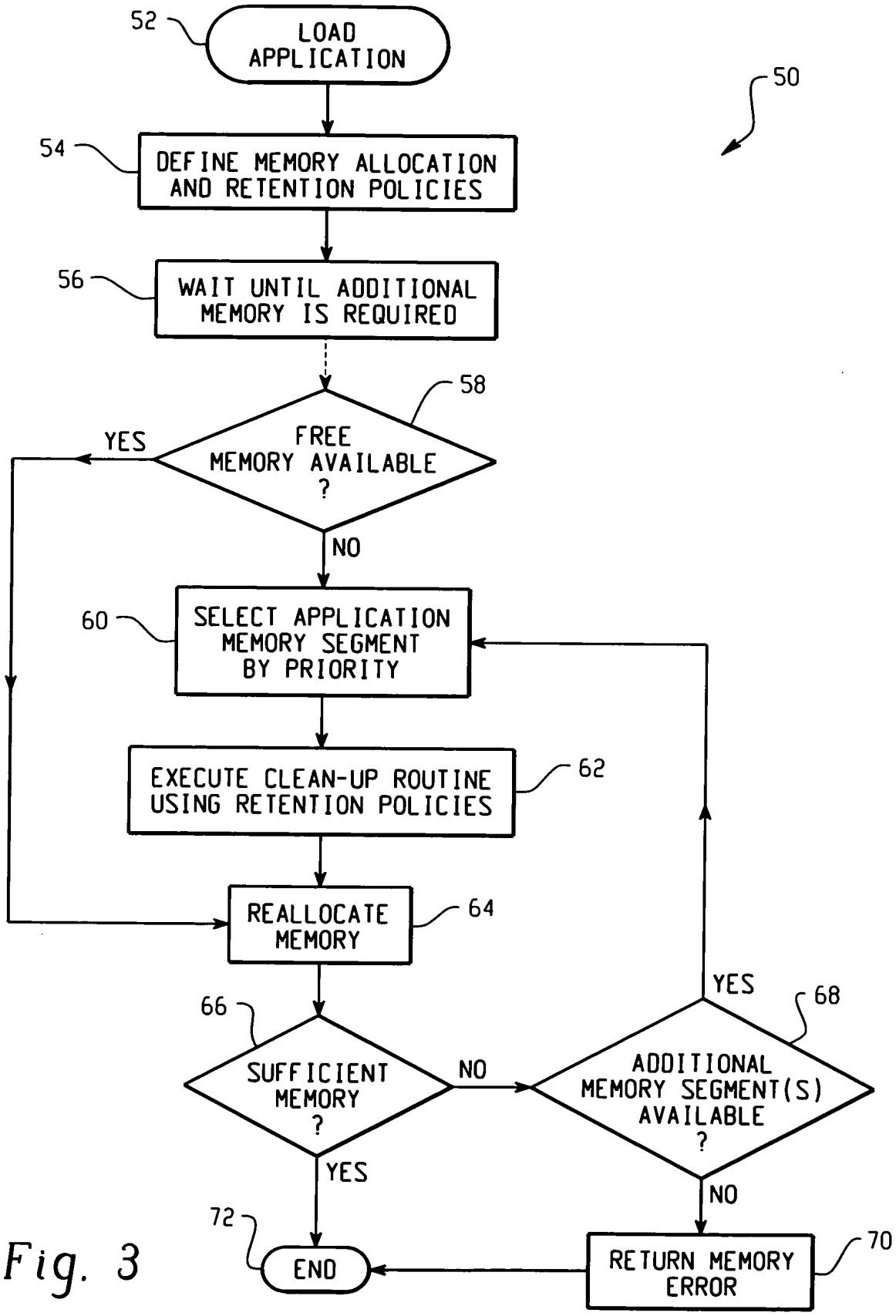
52
LOAD APPLICATION
50
54
DEFINE MEMORY ALLOCATION AND RETENTION POLICIES
56
WAIT UNTIL ADDITIONAL MEMORY IS REQUIRED
58
FREE MEMORY AVAILABLE ?
YES
NO
60
SELECT APPLICATION MEMORY SEGMENT BY PRIORITY
62
EXECUTE CLEAN-UP ROUTINE USING RETENTION POLICIES
64
REALLOCATE MEMORY
66
SUFFICIENT MEMORY ?
NO
YES
68
ADDITIONAL MEMORY SEGMENT(S) AVAILABLE ?
YES
NO
70
RETURN MEMORY ERROR
72
END

Fig. 3

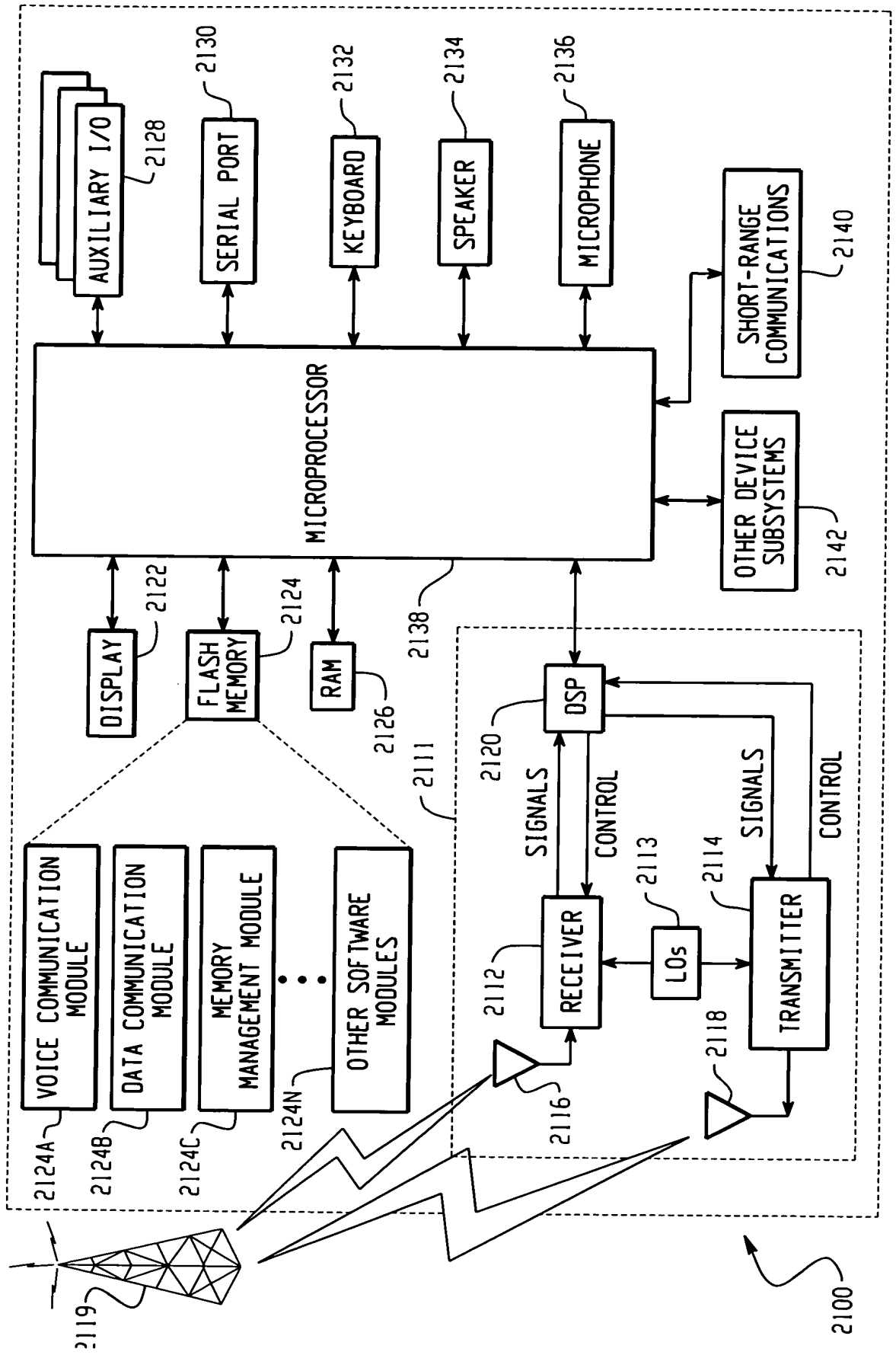
AUXILIARY I/O
2128
SERIAL PORT
2130
KEYBOARD
2132
SPEAKER
2134
MICROPHONE
2136
SHORT-RANGE COMMUNICATIONS
2140
MICROPROCESSOR
OTHER DEVICE SUBSYSTEMS
2142
DISPLAY
2122
FLASH MEMORY
2124
RAM
2126
2138
2111
DSP
2120
SIGNALS
CONTROL
RECEIVER
2112
LOs
2113
2114
TRANSMITTER
2116
2118
VOICE COMMUNICATION MODULE
DATA COMMUNICATION MODULE
MEMORY MANAGEMENT MODULE
OTHER SOFTWARE MODULES
2124A
2124B
2124C
2124N
2119
2100

Fig. 4